

## DESCRIPTION

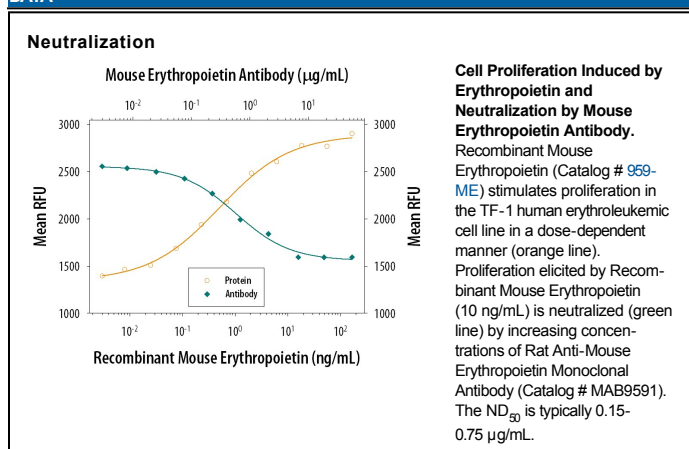
<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse Erythropoietin in direct ELISAs. In direct ELISAs, approximately 25-50% cross-reactivity with recombinant rat Erythropoietin, 5-15% cross-reactivity with recombinant human Erythropoietin, and no cross-reactivity with recombinant mouse Thrombopoietin is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 148436
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant mouse Erythropoietin Ala27-Arg192 Accession # P07321
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

<b>Mouse Erythropoietin Sandwich Immunoassay</b>	<b>Reagent</b>
<b>ELISA Capture</b>	2-8 µg/mL Mouse Erythropoietin Antibody (Catalog # <a href="#">MAB9591</a> )
<b>ELISA Detection</b>	0.5-2.0 µg/mL Mouse Erythropoietin Biotinylated Antibody (Catalog # <a href="#">BAM9592</a> )
<b>Standard</b>	Recombinant Mouse Erythropoietin (Catalog # <a href="#">959-ME</a> )
<b>Neutralization</b>	Measured by its ability to neutralize Erythropoietin-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. <i>et al.</i> (1989) <i>J. Cell Physiol.</i> <b>140</b> :323. The Neutralization Dose (ND <sub>50</sub> ) is typically 0.15-0.75 µg/mL in the presence of 10 ng/mL Recombinant Mouse Erythropoietin.

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

Erythropoietin (Epo) is a 34 kDa glycoprotein hormone in the type I cytokine family and is related to thrombopoietin (1). Its three N-glycosylation sites, four alpha helices, and N- to C-terminal disulfide bond are conserved across species (2, 3). Glycosylation of Epo is required for biological activities *in vivo* (4). Mature mouse Epo shares 95% amino acid sequence identity with rat Epo and 73%-82% with bovine, canine, equine, feline, human, ovine, and porcine EPO. Epo is primarily produced in the kidney by a population of fibroblast-like cortical interstitial cells adjacent to the proximal tubules (5). It is also produced in much lower, but functionally significant amounts by fetal hepatocytes and in adult liver and brain (6-8). Epo promotes erythrocyte formation by preventing the apoptosis of early erythroid precursors which express the Epo receptor (Epo R) (8, 9). Epo R has also been described in brain, retina, heart, skeletal muscle, kidney, endothelial cells, and a variety of tumor cells (7, 8, 10, 11). Ligand induced dimerization of Epo R triggers JAK2-mediated signaling pathways followed by receptor/ligand endocytosis and degradation (1, 12). Rapid regulation of circulating Epo allows tight control of erythrocyte production and hemoglobin concentrations. Anemia or other causes of low tissue oxygen tension induce Epo production by stabilizing the hypoxia-inducible transcription factors HIF-1 $\alpha$  and HIF-2 $\alpha$  (1, 6). Epo additionally plays a tissue-protective role in ischemia by blocking apoptosis and inducing angiogenesis (7, 8, 13).

**References:**

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